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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/648,560  
Filing Date: August 25, 2003  
Appellant(s): DODGSON ET AL.

Paul J. Farrell (Reg. No.: 33,494)  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 01/09/08 appealing from the Office action mailed 07/11/07.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,982,819	Wornack et al.	11-1999
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Admitted Prior Art disclosed on pages 1-2 of the present application (10/648,560)

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 17, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Womack et al. (US 5,982,819) (hereafter, Womack).

Claims 3-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Womack in view of Admitted Prior Art (hereafter, APA).

#### **(10) Response to Argument**

In the appeal brief, page 5, applicants has argued:

"Nothing in *Womack*, as a whole or in part, fairly teaches or suggests that the messaging receiver is capable of both modulating and demodulating data. The messaging receiver of *Womack* is notified of a modulation technique and allocates its flexible resources to receive and demodulate the reverse channel response of the PMUs.<sup>7</sup> The messaging receiver of *Womack* is not responsible for transmission of messages to the PMUs, thus there is no need for the modulation of the messages, and instead only demodulation takes place at the messaging receiver.

While *Womack* discloses that the messaging receiver may be customized to specific modulation techniques, the use of these techniques is for demodulation only. Thus, Womack fails to disclose a modulating device having a modulating means capable of modulating and demodulating according to at least a first and a second modulation technique, as recited in Claim 1."

It is true that Womack directs particularly to a receiver, which can be used as a receiver in PMU or at the base receiver (col. 4, lines 17-18). Such receiver is capable of demodulating the received signal according to plurality of modulating format, which is, in one embodiment, indicated by a modulation identifier (col. 3, lines 4-14). Further, Womack implicitly discloses that the "device" is also responsible for transmission to the PMU or the base receiver on forward channel (Fig. 1, element 103; col. 2, line 27, lines 57-60). Modulation is needed when information is to be delivered to the PMU from a message source (Fig. 1, element 109) via forward channel (Fig. 1, element 103). Moreover, multiple modulation formats can be employed on the forward channel as well

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(col. 2, lines 31-32; 35-40; col. 2, lines 63 to col. 3, lines 4; col. 3, lines 38-39).

Therefore, *Womack* teaches "a device" (Fig. 1, elements 107, 111, 117, collectively) capable of modulating and demodulating data using multiple modulation formats "using common digital modulation component", wherein the controller 107 particularly teaches "common digital modulation component" since the controller 107 controls all operation of the transmitter 111 and receiver 117 (col. 2, lines 48-52; col. 3, lines 35-39).

Further, in regard to claim 1, applicant has argued on pages 5-6:

As admitted by the Examiner, *Womack* fails to describe a switching means for automatically switching between at least the first and the second modulation techniques. The Examiner contends that this limitation is inherent, but provides no support for such a contention. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.<sup>8</sup> The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.<sup>9</sup>

*Womack* describes that a messaging receiver is capable of employing multiple modulation techniques upon reception of a modulation indicator, but fails to disclose that the receiver is capable of switching from a first modulation technique to a second modulation technique. Because there is no disclosure of the switching from a first modulation technique to a second modulation technique, there is no necessary need for a switching means in the messaging receiver. Further, there is no indication of an automatic switching from a first modulation technique to a second modulation technique. Inherency may not be established by probabilities or possibilities. The Examiner fails to provide any extrinsic evidence that makes clear that the switching means is necessarily present in the messaging receiver of *Womack*, and that it would be so recognized by persons of ordinary skill.

In the latest Advisory Action, in attempting to provide support for the argument that *Womack* teaches or suggests all of the elements of Claim 1, the Examiner contends that *Womack* discloses a system that is capable of employing multiple modulation and demodulation formats. While the system may employ multiple modulation and demodulation formats, the messaging receiver of *Womack* only operates to demodulate messages.

The Examiner further contends that the configuration of flexible resources in accordance with a determined modulation format, implies that there must be some

mechanism for switching the modulation format. However, the Examiner fails to realize that the configuration of flexible resources only implies the ability to establish a modulation format and does not imply the switching of one modulation format to another modulation format."

The examiner did not admit that "Womack fails to describe a switching means for automatically switching between at least the first and the second modulation techniques", rather, the examiner contended that such claimed subject matter is inherent (from the disclosure of Womack). An explanation for such contention was also provided in the office action dated 07/11/07.

As indicated above, Womack discloses utilization of multiple modulation formats on both forward and reverse channels. Particular modulation/demodulation format used is under control of the controller, preferably software based (Astract). That is, Womack discloses a messaging system that capable of accommodating communication not only with PMU from one system, but also from other neighboring system(s) (col. 1, lines 12-63). In the case of reverse channel, when signal received from a PMU, which uses one of the plurality of modulation formats (col. 2, lines 40-42), the receiver allocates flexible resources for demodulating the received signal according to the indicated modulation format (i.e. modulation identifier in the received signal), under control of the controller implemented by software (col. 3, lines 1-16; col. 4, lines 1-6, 11-13; Fig. 5, elements 519, 535, 537, 539; col. 4, lines 17-19, 33-39; col. 6, lines 8-11; col. 7, lines 2-5; col. 8, lines 13-14). This clearly implies that there must be a capability of changing from one modulation format to another. For example, when receiving signal from a first PMU having a first modulation format, the flexible resource is allocated to demodulate the received signal in corresponding to the first modulation format. When signal is received

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from a different PMU having a second modulation format (i.e. PMU from a neighboring system), the receiver is adapted to this second format accordingly by using flexible resource. Thus, configuration of flexible resources also implies there must be a capability for "automatically switching" between different modulation formats accordingly (i.e. using a software based controller). Therefore, it is believed that Womack meets all limitations in claim 1.

In regard to claim 2, page 6, applicant has relied on the argument for claim 1. Accordingly, the same answer in that of claim 1 is applied for claim 2.

Claims 17 and 18, applicant has also relied on the argument for claim 1. Accordingly, the same answer in that of claim 1 is applied for claims 17, 18.

Regard claim 3, page 8, applicant has also relied on the argument for claim 1. Accordingly, the same answer in that of claim 1 is applied for claim 3. Further, applicant has argued:

"Claim 3 also recites patentable subject matter in its own right. The Examiner contends that it would have been obvious to one skilled in the art at the time of the invention to easily utilize a serial- to-power converter, as disclosed in *APA*, into *Womack* when there is a need to accommodate such a modulation signal.<sup>2</sup> However, this contention represents a conclusory statement without any articulated reasoning or rational underpinning to support the legal question of obviousness.

Appellants agree that *Womack* fails to teach or suggest a serial-to-power converter. A serial-to-power converter is utilized in a conventional modulator.<sup>3</sup> As described above with regard to Claim 1, *Womack* describes a messaging receiver that only demodulates. Thus, there is no teaching, suggestion or motivation to combine the serial-to-power converter of *APA* with the messaging receiver of *Womack*. Because it is also not clear how one would combine the serial-to-power converter of *APA* with the messaging receiver of *Womack*, there is no reasonable expectation of success in combining the teachings of *Womack* and *APA*. Therefore, it is respectfully submitted that Claim 3 is believed to be allowable over the combination of *Womack* and *APA*."

Womack discloses that any suitable modulation formats can be used (col. 2, lines 32-35; col. 4, lines 5-6. The admitted prior art (APA) discloses use of CCK+DQPSK modulation, in which, a serial-to-parallel converter" is utilized. Therefore, if there is a desire to accommodate a CCK+DQPSK modulation in Womack, it would have been obvious to one skilled in the art at the time of the invention to include the CCK+DQPSK modulator, as taught in the APA, into the flexible resources of Womack, appropriately, and still can expect a predictable result.

Regard claim 4, page 9, applicant has also relied on the argument for claim 1. Accordingly, the same answer in that of claim 1 is applied for claim 4. Applicant further has argued:

*Claim 4 also recites patentable subject matter in its own right. The Examiner contends that Womack discloses that in a first mode a finite impulse response filter is used and in a second mode the finite impulse response filter is not used)<sup>4</sup> However, Womack actually describes that for demodulation of frequency shift keyed signals, a decision between low speed data rates is made with the aid of the finite impulse response filter. Womack provides no disclosure relating to the use of finite impulse response filter in a first mode and its non-use in a second mode. Further Womack fails to disclose that the finite impulse response filter is programmable to a first and a second mode for first and second modulation techniques. APA fails to remedy this deficiency of I:Womack. Therefore, it is respectfully submitted that Claim 4 is believed to be allowable over the combination of Womack and APA."*

However, Womack discloses that when different modulation formats is used, different FIR routine is required (col. 9, lines 51-53). Therefore, Womack implicitly discloses that claimed subject matter "wherein said programmable finite impulse response filter is programmable to a first and a second mode for said first and second modulation techniques, respectively.



Regard claims 5-16, applicant has also relied on the argument for claim 1.

Accordingly, the same answer in that of claim 1 is applied for claims 5-16. Applicants further has argued:

*“Claims 5-16 also recite patentable subject matter in their own right, and the Examiner has failed to provide clear and detailed rejections with regard to Claims 5-16. More specifically, the Examiner has failed to designate a particular part of the reference that is relied upon, and has failed to clearly explain the pertinence of each reference for each rejected claim. Accordingly, it is respectfully submitted that because the above arguments place the independent claim in condition for allowance, that these dependent claims are also believed to be in condition for allowance.”*

As indicated in the office action dated 07/11/07, the further claimed subject matter in claims 5-16 would have been easily realized by one skilled in the art as application specific. For example, claim 14, if there is a desire to accommodate a CCK+DQPSK modulation in Womack, it would have been obvious to one skilled in the art at the time of the invention to include the CCK+DQPSK modulator, as taught in the APA, into the flexible resources of Womack, appropriately, and still can expect a predictable result.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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/Dac V. Ha/

Primary Examiner, Art Unit 2611

Conferees:

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611

/CHIEH M FAN/

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